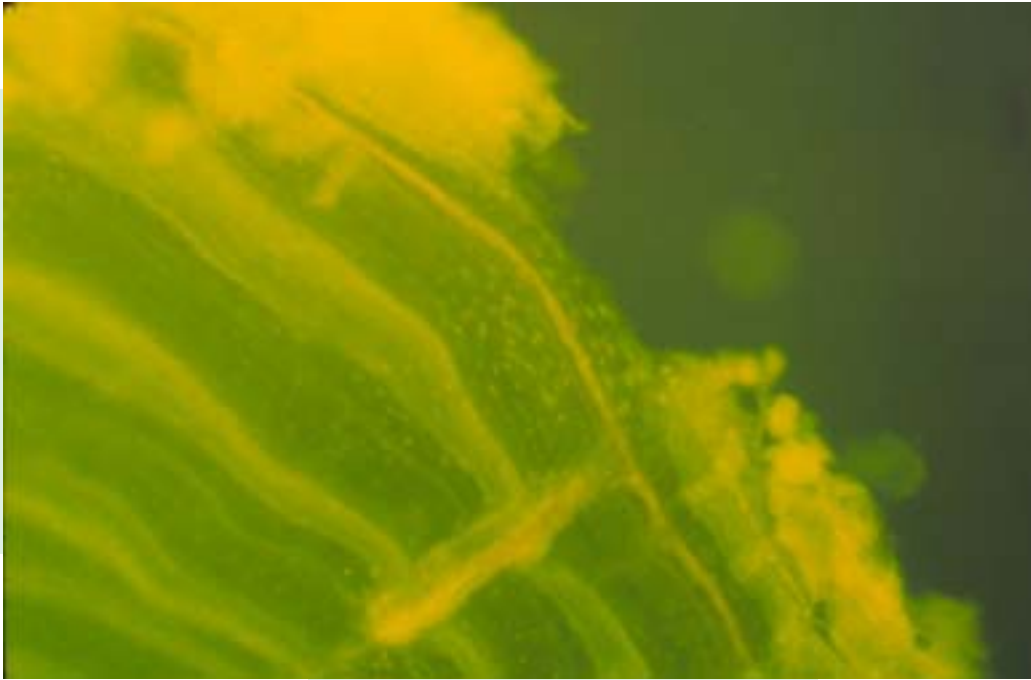


# Use of bear age data – A



**A slice of a bear tooth dyed and viewed under a microscope.**



**The preferred tooth for age analysis is an upper first premolar (small tooth just behind the large canine).**

**B**ears live long lives. It is not uncommon to have several bears older than 25 taken by hunters. Knowing the age of the bears is very important for monitoring the status and trend of the bear population. The ages are used to estimate the population.

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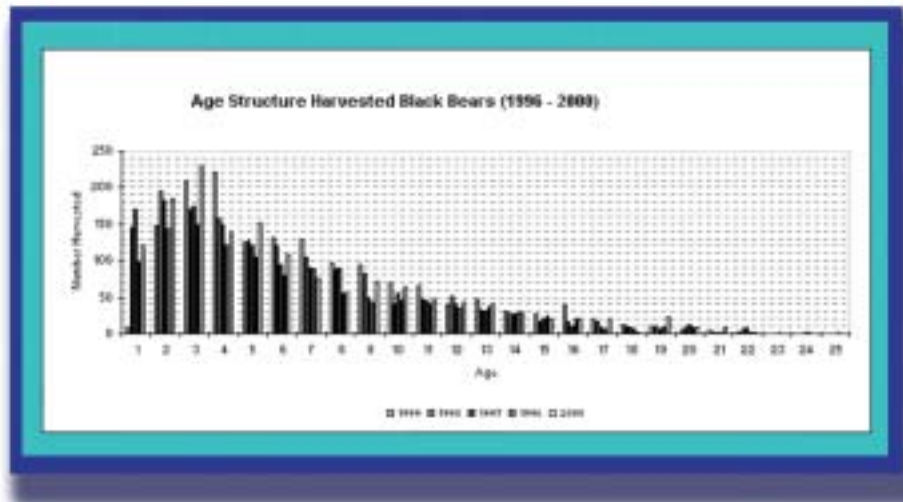
*By Doug Updike*

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In addition to estimating the number of bears, the median age of the bears taken by hunters is important in assessing the effect of hunting on the population. In California, female bears need to be about 4 years old before producing cubs. The median age of the hunter-killed female bears has increased since 1983, when it was only 2.5 years. This indicated that, during this period, there were relatively few adult female bears reaching the age of reproductive maturity.

Some research in northern California reported in 1989 showed the median age of bears trapped in Redwood National Park (where hunting is not allowed) was 4.3 years. In Yosemite National Park studies reported in 1982 and 1990 showed the median age of trapped bears was 3.6 years, 4.9 years if cubs are excluded. Since the mid-1980s, several changes have been made in hunting regulations to reduce illegal killing of bears. The median age of all

# matter of pulling teeth



Graph by Doug Updike

bears harvested in California during 2000 was 4.8 years and 5.6 years for females.

Each successful bear hunter is required to present the skull of their bear to a Department of Fish and Game (DFG) employee to have a small tooth extracted for age analysis. The preferred tooth for the analysis is an upper first premolar, a small tooth just behind the large canine tooth. The tooth is carefully elevated (gentle form of extracting the tooth) to keep the root of the tooth intact.

The teeth are shipped to a special laboratory which does wildlife age analyses for most western states. Once the teeth are logged in and inspected, they are chemically decalcified. Then they are embedded in paraffin and sliced into very thin sections. Selected sections are mounted onto microscope slides and stained to show the variation in the cementum in the tooth. The prepared slides are carefully analyzed under the microscope and the age is determined.

The critical nature of the age data requires DFG to continue to use this fascinating technique for monitoring the effects of management of black bears. 🐻

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DFG photos by staff

**Bear teeth are examined when a bear is captured.**